

3.9 AESTHETICS AND VISUAL RESOURCES

Visual resources are the natural and human-made features of a landscape that characterize its form, line, texture, and color. This section describes the existing landscape in the five regions and identifies potential impacts on visual resources for each alternative related to the proposed addition of infrastructure in, or removal of infrastructure from, the existing landscape. Infrastructure may include roadway expansion, airport improvements, high-speed train (HST) improvements/construction, tunnels, fences, noise walls, elevated guideways, catenaries,¹ and stations. This assessment evaluates the potential changes to existing scenic landscapes for each alternative and HST alignment station option during construction (addition of construction staging areas, site work, construction equipment, temporary barriers, fences, and temporary power poles) and operation.

3.9.1 Regulatory Requirements and Methods of Evaluation

A. REGULATORY PROVISIONS

There are no specific regulatory requirements or federal or state standards for aesthetics and visual resources. However, there is a requirement in both federal and state environmental guidelines to address topics related to the visual environment. The most explicit guidance is in CEQA environmental checklist, which requires that a project proponent identify whether a project would have a substantial adverse effect on a scenic vista; substantially damage scenic resources, including trees, rock outcroppings, and historical buildings within a state scenic highway; substantially degrade the existing visual character or quality of the site and its surroundings; or create a new source of substantial light or glare that would adversely affect day or nighttime views in the area (CEQA Appendix G Environmental Checklist Form 2001). The Federal Rail Authority (FRA) Procedures for Considering Environmental Impacts (FRA Docket No EP-1, Notice 5, May 26, 1999), under the topic of aesthetic environmental and scenic resources, states: "The EIS should identify any significant changes likely to occur in the natural landscape and in the developed environment. The EIS should also discuss the consideration given to design quality, art, and architecture in project planning and development as required by DOT Order 5610.4." Consideration of local community design guidelines would be part of a subsequent phase of analysis for project-specific environmental review when more detailed engineering and architectural information would be developed for proposed alternatives. California Department of Transportation (Caltrans) design standards would apply to state highway improvements under the No Project and Modal Alternatives.

B. METHOD OF EVALUATION OF IMPACTS

The analysis of aesthetic and visual resources for this Program EIR/EIS focuses on a broad comparison of potential impacts on visual resources (particularly scenic resources, areas of historic interest, and natural open space areas and significant ecological areas [SEAs]) along proposed Modal and HST Alternative corridors and around HST stations. The potential impacts for each of these alternatives are evaluated against the existing conditions, as described in Section 3.9.2, *Affected Environment*.

Photo simulations have been prepared to illustrate the conceptual design of the facilities associated with the Modal and HST Alternatives for a set of typologies (or general descriptions) selected from each of the regions and representative of highly scenic landscapes most subject to potential significant visual impacts. These simulations have been used to evaluate how the distinguishable (dominant) visual features (color, line, texture, form) that characterize the existing landscape would change if the alternative were implemented. Of particular interest are locations where plans and profiles show elevated structures (guideways or overpasses), and tunnel portals or extensive cut or

¹ *Catenaries* are the wires and support-pole system that deliver the power supply to the proposed HST system.

fill. Also addressed in the evaluation is the potential shadow effect of elevated structures and the light and glare effects of the proposed alternatives. For the HST Alternative, the linear feature of the overhead electric wires and poles to supply power to the train, and the fenced track and potential noise barriers are considered in the evaluation.

Potential changes to the dominant landscape features, or potential visual impacts, are described and ranked as high, medium, or low according to the potential extent of change to existing visual resources. Visual contrast rankings, or impact rankings, are defined as follows.

- *High visual impacts* would be sustained if features of the alternative were obvious and began to dominate the landscape and detract from the existing landscape characteristics or scenic qualities.
- *Medium visual impacts* would be sustained if features of the alternative were readily discernable but did not dominate the landscape or detract from existing dominant features.
- *Low visual impacts* would be sustained if features of the alternative were consistent with the existing line, form, texture, and color of other elements in the landscape and did not stand out.
- *Shadow impact ranking* would be high if the new (not existing) elevated structure were within 75 feet (ft) (23 meters [m]) of residential or open space, natural areas, or parkland.
- *Beneficial visual impact* would result if the alternative eliminated a dominant feature in the landscape that currently detracts from scenic qualities or blocks vistas.

3.9.2 Affected Environment

A. STUDY AREA DEFINED

The study area for aesthetics and visual resources is defined as 0.25 mi (0.40 km) from the centerline of proposed alternative corridors and around stations and airports. However, where there are scenic viewing points or overlooks within 1 mi (2 km) of the alternative, these scenic viewing points have been included in the study area. The distance range of up to 0.25 mi (0.40 km) from proposed corridors and stations and up to 1 mi (2 km) from proposed alternative corridors and facilities for scenic viewing points is considered the area where a change in landscape features would be most noticeable to viewers, and where newly introduced features could begin to dominate the visual character of the landscape.

B. GENERAL DISCUSSION OF AESTHETICS AND VISUAL RESOURCES

Each of the five regions includes a number of distinct types of landscapes spread over a large geographic area, many of which are common among the regions. A typology of typical landscapes is used to describe the aesthetic and visual resources in the study area. The typologies provide the baseline or existing conditions against which the analysis of potential change or visual impact for each of the proposed alternatives is evaluated. Photographs of highly scenic and typical landscapes within each of the five regions are provided to illustrate the dominant line, form, color, and texture for that landscape typology.

The landscape typologies discussed are urban mixed use, urban suburban, traditional small urban community, industrial use, rural agriculture, rural desert, and natural open space and parks.

Urban Mixed Use

High-density urban mixed-use landscapes consist of multifamily housing, high-rise office buildings, at-grade and elevated transportation systems (Caltrain, BART, Metrolink, San Diego Trolley), street grids, and limited vegetation. This landscape characterizes the major

metropolitan areas in the study area: San Francisco, Los Angeles, Sacramento, San Jose, and San Diego.

Urban Suburban

This typology consists of suburban areas of low-density development—modern single-family houses, yards set back, trees and ornamental landscaping—located around more densely developed metropolitan areas. This typology also includes commercial, retail, office structures, and infrastructure such as roads, highways, overpasses, underpasses, rail lines, and utilities. Examples include South San Jose, Irvine to Oceanside, San Bernardino, Riverside, and Merced.

Traditional Small Urban Community

This typology is characterized by long-established rural communities—older buildings and historic architecture two to three stories high, with mature street trees—along existing highways or rail corridors. This typology comprises historic or early post-World War II residential neighborhoods characterized by small- to mid-size houses on small lots with narrow streets, and retail, commercial, and institutional mixed uses along arterial streets. Examples include Morgan Hill, Gilroy, Visalia, Tulare, and Santa Clarita.

Industrial Use

This landscape typology features industrial complexes with structures and warehouses of widely varied areas, sizes, and scales, and includes freight tracks and rail yards, transmission towers, substations, and utility lines. This typology typically is found along existing rail corridors or major highways.

Rural Agricultural

Broad, open agricultural fields with or without fences, along with barns, silos, and other farm structures, farm equipment, isolated farm houses, and low-density rural commercial strips typify this typology. The horizontal topography is characterized by crop fields, farm roads, fence and pole lines, and wind breaks, punctuated by barns, houses, sheds, water towers, and other agriculture-related structures. This landscape is typical of the Central Valley region.

Rural Desert

In this typology, open, flat, barren land is dotted with desert plants and shrubs, and residential and commercial structures. This landscape typology is found south of Bakersfield in the Bakersfield to Los Angeles region, and in the Inland Empire region.

Natural Open Space and Parks

Undeveloped natural areas such as coastal lagoons, forested mountains, mountain lakes and streams, rolling hills with woodlands and grasslands, or forested ridges and valleys with lush vegetation form the dominant visual features of these landscapes. These landscapes are typically scenic with high aesthetic qualities. Examples include the Pacheco Pass/Diablo Range, Tehachapi Mountains, and coastal area from San Clemente to San Diego.

C. AESTHETICS AND VISUAL RESOURCES BY REGION

A geographic information systems (GIS) map showing the location of the scenic corridors (identified in regional and local planning documents as “corridors with landscapes of high scenic qualities and scenic vistas”) and scenic or sensitive landscapes in the northern region is shown in Figure 3.9-1A and in Figure 3.9-1B for the southern region. For both the No Project and Modal Alternatives, the affected environment is divided into typologies along both sides of existing highway and rail corridors. Several of the HST alignment options being evaluated are either within or adjacent to

these existing highway or rail corridors and therefore would potentially affect many of the same landscapes.

Bay Area to Merced

This region includes central California from the San Francisco Bay Area (San Francisco and Oakland) south to the Santa Clara Valley and east across the Diablo Range to the Central Valley. Landscape types vary substantially in this region, from primarily urban mixed use or urban industrial in the northern part of the Bay Area, to more rural and natural open space landscape in the southern part of the region. From San Jose to Gilroy, the study area includes about 20 mi (32 km) of scenic corridor along US-101. From Gilroy through the Diablo Mountain Range or through the Pacheco Pass (along SR-152) for about 35 mi (56 km), the study area consists of a mix of highly scenic agricultural, wetland, and natural open space landscapes, and the Henry W. Coe State Park backed by mountains (Mount Hamilton) and rolling hills with mixed oak woodlands and grasslands.

Starting from the northern part of the region, the landscapes along the Caltrain corridor and US-101 and I-880 between San Francisco and San Jose and along the Union Pacific Railroad (UPRR) corridor between Oakland and San Jose are typically urban mixed use or industrial, with stretches of urban suburban residential and commercial landscapes between the metropolitan destinations of San Francisco, Oakland, and San Jose. On the Oakland side of the Bay, the existing UPRR Line splits off to the Hayward Line and the Mulford Line. The Mulford Line traverses the eastern edge of the Don Edwards San Francisco Bay National Wildlife Refuge and transitions to the Niles Line that goes through the historic town of Niles near the mouth of the scenic Niles Canyon. The existing non-electric rail tracks and stations along the Caltrain corridor on the west side of the Bay and the UPRR tracks and elevated BART guideway on the east side of the Bay are dominant linear features in the landscape between Oakland/San Francisco and San Jose. Views of the Bay are part of the aesthetic landscape experience along the UPRR in the East Bay and also along some segments of Caltrain near the San Francisco International Airport (SFO). Views of the skyline of San Francisco are visible from the Caltrain alignment approaching the city. Views of the Caltrain tracks are visible from several local parks and from San Bruno Mountain hiking trails; however, the tracks are not a dominant visual feature in these landscapes (the multiple-lane freeways and bridges are dominant). The San Jose Diridon Station is a designated historic property listed on the National Register of Historic Places. The station dates to 1935, with architectural features characteristic of that period.

The traditional small urban community landscapes south of the highly urbanized San Jose area and through the small rural towns of Morgan Hill and Gilroy are characterized by mixed residential, commercial, and institutional uses in early to mid-20th-century contiguous buildings, average heights of two to three stories, minimal setbacks from streets, mature landscaping, and pedestrian-oriented streetscapes. Dominant visual features are historic architecture, mature street trees, and the surrounding distant mountainous ridgelines. Figure 3.9-2, *Gilroy Station*, shows traditional small urban community typology with historic rural community character.

The natural open space landscapes along SR-152 in Pacheco Creek Valley east of Gilroy are characterized by coastal mountains and mountain valley topography typified by rolling to steep-sloped grassland with shrubs, clusters of oaks and other native tree species, and wooded bottomland. Much of this area is part of the Henry Coe State Park and Mount Hamilton Project Area of The Nature Conservancy (described in Section 3.15, *Biological Resources and Wetlands*) that is designed to preserve the rich natural habitats in a 780-sq-mi (1255-sq-km) area of the Diablo Range. Small farms or ranches (in bottomlands), isolated roadside businesses, and widely dispersed small communities (e.g., Casa de Fruta) characterize the landscape. Figure 3.9-3, *Pacheco Pass*, illustrates a rural agricultural and natural open space landscape typology.

The coastal valley landscape consists of flat or rolling landscapes ringed with low hills and mountains in the background. Dominant visual elements are vistas of agricultural bottomland and wetlands framed by background views of green hills, ridges, and mountains. East of the community of San Felipe, the coastal valley landscape transitions into the rural agricultural landscape typical of the Central Valley.

Sacramento to Bakersfield

This region of central California includes a large portion of the Central Valley (San Joaquin Valley) from Sacramento south to Bakersfield. At the northern end of the region in the Sacramento area, the typology is urban mixed-use landscape. The Central Valley from Sacramento to Bakersfield consists primarily of rural agricultural landscapes and traditional small urban community landscapes. Agriculture dominates the majority of the region with uniform topography of tilled fields, orchards, or undeveloped land. Agricultural areas also include highly visible utility poles and lines arranged along the major roadways (e.g., SR-99 and I-5) that form a dominant linear visual element in the landscape.

Locally designated scenic routes in the study area in this region include US-50 in Sacramento, Austin Road and East River Road in San Joaquin County, M and N Streets in Merced, and SR-198 in Visalia. Much of the proposed HST Alternative in this region would be adjacent to existing rail or highway corridors and thus would share the same affected environment.

The traditional small urban communities in the region range from clustered residential subdivisions outside Pixley (Figure 3.9-4) to the mixed commercial and residential uses of towns and cities like Visalia and Madera. For the Sacramento to Bakersfield region, urban settings are exemplified by the traditional downtown areas of Sacramento, Stockton, Modesto, Merced, Hanford, Fresno, and Bakersfield. Views of the Sacramento River are intermittently part of the landscape from along the I-5 corridor south of Sacramento.

Along each alignment option for the proposed alternative corridors in the region, views are generally sweeping vistas of rural agricultural landscapes and small urban communities. The proposed HST Alternative station sites range from undeveloped or agricultural sites (e.g., the Power Inn Road station site in Sacramento), to older station sites that are either in active use (e.g., Hanford) or underutilized (e.g., Fresno), to new or refurbished station sites that are pedestrian-scale (e.g., Truxtun Amtrak) or grand (e.g., downtown Sacramento Valley station).

For the Sacramento to Bakersfield region, the industrial settings include existing station sites as well as groupings of industrial buildings along the existing rail corridors. Figure 3.9-5, *Sacramento Power Inn Road*, looks south from Polk Street (and Power Inn Road) in Sacramento, illustrating a rural landscape with light industrial uses.

Bakersfield to Los Angeles

This region of southern California encompasses the southern portion of the Central Valley south of Bakersfield, the mountainous areas between the Central Valley and the Los Angeles basin, and the northern portion of the Los Angeles basin from Sylmar to downtown Los Angeles. Landscapes in this region transition from rural agricultural and traditional small urban communities south of Bakersfield, to highly scenic mountain range (natural open space) through the Tehachapi Mountains and Angeles National Forest, and finally into highly urban mixed-use landscapes in northern Los Angeles County.

State- and locally designated scenic routes in the region include 2.5 mi (4.0 km) along I-5, 2.2 mi (3.5 km) along Riverside Drive near Burbank, and 1.1 mi (1.8 km) along the Sierra Highway in Palmdale. Other scenic overlooks or viewing points along the I-5 Tehachapi corridor in the

region include those in the Pyramid Lake Recreational Area in the Angeles National Forest north of the Santa Clarita Valley; views from the Golden State Highway, also in the Angeles National Forest south of Pyramid Lake; trails in the Towsley Canyon part of the Santa Clarita Woodlands Park, which is managed by the Santa Monica Mountains Conservancy; and trails near the Pacific Crest Trail south of Soledad Canyon Road in the Angeles National Forest.

Rural agricultural landscape characterizes the north part of the study area in the Central Valley between Bakersfield and the edge of the Tehachapi Mountains to the south. Urban/suburban landscapes characterize the greater Los Angeles metropolitan area, generally from the City of Santa Clarita south through the study area in the City of Los Angeles, with development density generally increasing from north to south. Rural desert landscape characterizes the Antelope Valley from the base of the Tehachapi Mountains to the town of Rosamond.

The area from Bakersfield to Sylmar includes the highly scenic natural open space landscapes described below along both the Tehachapi and Antelope Valley corridors.

- Pyramid Lake Recreation Area is in the Angeles National Forest north of the Santa Clarita Valley. Pyramid Lake, owned and operated by the California Department of Water Resources (DWR), is a reservoir of the State Water Project that provides boating, fishing, and swimming opportunities for visitors. The Vista Del Lago Visitors Center operated by DWR provides interactive exhibits on California's water and has balconies with telescopes for viewing the lake, as illustrated in Figure 3.9-6. I-5 is visible on the left of the view in the middle ground.
- The Angeles National Forest is considered a visually scenic resource because of the camping and other recreation opportunities it provides, and the largely undeveloped views it affords to visitors, as illustrated in Figure 3.9-7. The landscape shown in the figure is typical of similar mountain landscape views from within the Angeles National Forest from viewing points near I-5. Vehicles are visible on I-5, and high-voltage electrical towers are visible on the hills in the background.
- The Santa Clarita Woodlands Park, which is managed by the Santa Monica Mountains Conservancy, provides picnic facilities and trails for hiking, mountain biking, and equestrian uses. This park is considered a scenic resource because it is available to recreation users to enjoy a predominantly undeveloped setting that includes a variety of native plants and animals.
- The Tehachapi Pass south of SR-58 and east of the town of Keene includes scenic viewing points and landscapes considered scenic. The Tehachapi Pass Railroad Line, of which this loop along SR-58 is a part, is a national Historic Civil Engineering Landmark. This rail line, constructed between 1874 and 1876, averages a gradient of 2.2% along its 28-mi (45-km) length. The line is in constant use today, essentially unchanged 126 years after its completion.
- The Sierra Highway-Antelope Valley area is considered a scenic resource because Sierra Highway from Avenue S south to the City of Palmdale boundary is designated in the City of Palmdale general plan as a scenic highway. Una Lake can be seen from Sierra Highway. The Lake Palmdale dam is also visible.
- The Santa Clarita Floodplain portion of the Santa Clarita River floodplain is considered a scenic resource because it is designated an SEA by the County of Los Angeles. The primary purpose of SEAs, as described in Section 3.15, *Biological Resources and Wetlands*, is to preserve biological diversity in Los Angeles County. The county recognizes, however, that the natural open space in SEAs functions also as a visual amenity.
- The north wall of Soledad Canyon, illustrated in Figure 3.9-8, is considered a scenic resource because it is largely undeveloped and is visible to hikers on the Pacific Crest Trail and other

- trails, as well as to motorists using unpaved roads in this area of the forest. This figure shows a landscape that is typical of views from the forest looking north in Soledad Canyon.
- Figure 3.9-9 illustrates Santa Clarita from Dockweiler Drive. The area south of SR-14 is considered a scenic resource because the predominantly undeveloped area beyond SR-14 is Los Angeles County-designated SEA. The undeveloped area beyond SR-14 comprises green curvilinear hills, ridges, and mountains covered with predominantly evergreen shrubs and trees with scattered grassland areas.
 - Views of the Los Angeles Union Station (LAUS) area are considered scenic because LAUS is an important historic building listed in the National Register of Historic Places, as discussed in Section 3.12, *Cultural and Paleontological Resources*.

Los Angeles to San Diego via Inland Empire

This region of southern California includes the eastern portion of the Los Angeles basin from downtown Los Angeles east to the Riverside and San Bernardino areas and south to San Diego generally along the I-215 and I-15 highway corridors. The region extends approximately 150 mi (241 km) through a series of diverse, and in some cases, highly developed and populated landscapes. From LAUS east and south to March Air Reserve Base (ARB), the I-10 and I-215 highway and the HST study area travel through several large, intensively urbanized, interior valleys (urban mixed-use and urban suburban landscape typologies). From the area south of March ARB through the northern reaches of San Diego County, I-15 and the HST study area pass through valley and upland areas that are under active development pressure but that presently retain a relatively undeveloped and, in places, more rural appearance than the more developed urban areas of San Diego. From Escondido south to Mira Mesa, the upland areas through which the study area passes have a generally suburban appearance. South of Mira Mesa, the various alternative options would pass through a series of coastal valleys and then along the coastal plain.

In the areas along and in the immediate vicinity of the highway and HST corridors being considered in this analysis, there are no roadways officially designated state scenic routes. None of the alternatives in the region would pass within 0.25 mi (0.40 km) of a designated scenic corridor.

For much of the distance between LAUS and the northern fringes of Riverside, the HST alignment options being considered consist of existing rail corridors, along which the adjoining areas have been developed with industrial uses. To the east south of LAUS, the long-established industrial areas are characterized by a dense pattern of development. In the area around LAUS and around the historic centers of communities in the San Gabriel Valley and in Pomona, Ontario, and San Bernardino, the rail corridors pass through or adjacent to areas of urban mixed use that extend up to the railroad right-of-way with little or no buffer of industrial development.

The central area of Escondido and the southern end of the San Diego central business district have a traditional urban character, with a regular block and lot pattern, creating a grid of urban streets. These streets are lined with buildings of varying ages housing a variety of commercial, governmental, and institutional uses. In many cases, such areas include the long-established community centers and therefore contain older structures. Often these buildings have some architectural merit or symbolic importance. Although these areas are generally highly developed, there is often vegetation consisting of street trees, and in some cases small landscaped areas on lawns or in public open spaces. In some landscapes, there are historically and architecturally important structures and/or distant views of significant natural features. Pomona is one example. At several points along the rail corridor—particularly in Los Angeles, the older portions of the San Gabriel Valley, and central San Diego—there are areas of high-density urban mixed-use landscapes with housing close to the railroad rights-of-way.

For many miles along the alternative corridors in this region, the study area passes through or is adjacent to lower-density suburban neighborhoods of single-family homes. The residential scale of the structures and the presence of landscaping, fences, and other small-scale features characterize the landscape.

Approaching San Diego, several of the HST alignment options are located either immediately adjacent to or down the middle of existing freeways, (I-215, I-15, and I-5) as illustrated in Figure 3.9-10, *I-15 in San Diego*. The freeway landscape has a highly developed, large-scale, and highly linear appearance. Figure 3.9-11 illustrates a view from the eastern edge of Mission Bay Park.

Los Angeles to San Diego via Orange County

This region includes the western portion of the Los Angeles basin between downtown Los Angeles and Los Angeles International Airport (LAX), and the coastal areas of southern California between Los Angeles and San Diego, generally following the existing Los Angeles to San Diego via Orange County (LOSSAN) rail corridor. The existing local visual setting in the region ranges from highly urbanized landscapes to undeveloped areas. Much of the existing rail and highway system in the southern part of the region parallels the coastline of the Pacific Ocean. From Orange County to San Diego, the HST corridor being evaluated is the existing rail corridor used by Amtrak and the Coaster conventional (diesel locomotive) trains. I-5 (evaluated in this study under the Modal Alternative) provides only one or two isolated views of the ocean. The existing LOSSAN rail corridor does provide passengers with scenic views of the ocean and open spaces along portions of its route.

There are no local- or state-designated scenic corridors in the study area for visual resources in this region, though some highways (e.g., SR-1 along the coast) are considered eligible for designation as California State Scenic Routes and are located near the existing rail corridor. These routes do not offer continuous views of the ocean within the study area.

Landscapes and visual settings in the region include urban mixed-use and industrial landscapes. The majority of the existing rail corridor currently traverses dense development that includes warehouses, commercial and industrial buildings, and residential housing (areas in Los Angeles County and northern/central Orange County, for example). Limited landscaping and native vegetation exist in these industrial areas that are dominated by typically large, box buildings. There are areas of high-density housing (multifamily and single-family dwelling units) along the railroad right-of-way. Residential, commercial, and industrial building structures blend with the surrounding environment with neutral colors, tones, and textures. Historic structures such as Mission San Juan Capistrano and the Los Rios District of San Juan Capistrano, (further described in Section 3.12, *Cultural and Paleontological Resources*), and more modern developments such as downtown Los Angeles or San Diego are examples of various urban settings. The historic areas typically include older structures, often with architectural importance, that vary in texture, size, and color. The area of a proposed rail station along the existing UPRR Santa Ana Line in Norwalk is highly developed with a mixture of commercial and industrial uses along with surrounding residential areas.

There are a number of suburban and traditional small urban community landscapes in the region that are located close to commuter and transportation hubs and surrounded by retail, business, and residential land uses. The city center and neighborhoods in these communities are separated by transportation corridors and/or undeveloped land. Examples include Santa Ana, Carlsbad, and Encinitas.

Figure 3.9-12 shows a unique coastal corridor example of beachfront alignment in a viewpoint in San Clemente, looking north from an existing pedestrian footbridge located just south of the pier.

The existing rail corridor is located along the flat and even shoreline and beaches. The tracks run along the base of cliffs to the east. The strong horizontal line of the rail corridor interlocks and contrasts with the strong vertical line of the cliffs. Residences along the bluff tops provide highly scenic, distant views of the shoreline and ocean.

The existing LOSSAN rail corridor is located along the bluffs at Del Mar above the shoreline/beaches and below the residences. The landscape transitions from the ocean up to the top of the bluffs. The existing tracks are set between the shoreline below and the homes above, along a narrow portion of the bluffs.

The region is characterized by coastal towns and urban areas, historic districts, parks, and wildlife preserves. Calafia Park in San Clemente, Camp Pendleton, area beaches, and a number of lagoons are examples of parks and open space areas along the existing LOSSAN rail corridor. The Camp Pendleton area is undeveloped land with some large overhead transmission lines, industrial facilities (e.g., San Onofre Power Plant), and the I-5 corridor. Figure 3.9-13 illustrates an example of open space in the region and shows the existing railroad bridge crossing of the San Elijo Lagoon.

3.9.3 Environmental Consequences

A. EXISTING CONDITIONS COMPARED TO NO PROJECT ALTERNATIVE

The existing conditions in 2003, or existing landscapes, are used as the baseline and are assumed to be representative for the analysis of potential visual impacts for the Modal Alternative and the HST Alternative. Though it is likely that the existing landscape character will change in each of the regions by the year 2020 due to development and urban growth, these changes are not possible to characterize at this time with precision. To base comparisons of alternatives on current conditions is to take a conservative approach. The extent of change to some of the landscapes (particularly the rural and open space landscapes) reported in this section may not be as pronounced as they appear in this impact evaluation.

The highway projects approved and funded for construction by 2020 and included in the No Project Alternative are described in Chapter 2, *Alternatives*. In most of the regions, these improvements or changes to the existing highways and airports are generally expansions or reconfigurations of existing facilities that would not result in substantial visual contrasts or changes to the dominant line, form, color, or texture characterizing the existing landscape condition. No significant visual impacts, shadow, or glare impacts have been identified for the changes between the existing conditions and No Project Alternative for this program-level analysis. As these projects advance, the project sponsors (not the California High Speed Rail Authority [Authority]) may identify and address some localized visual impacts in separate environmental documentation.

B. NO PROJECT ALTERNATIVE COMPARED TO MODAL AND HIGH-SPEED TRAIN ALTERNATIVES

The comparison of potential aesthetic and visual resource impacts for the Modal and HST alternatives is a broad overview of potential differences between alternatives for the construction (short-term) and operation (long-term), direct and indirect, and cumulative impacts.

Modal Alternative

Under this alternative, the potentially feasible highway improvements would represent about 2,970 lane mi (4,345 lane km) of new highway construction. Several intercity highways would be widened to a total of 12 lanes. Adding outside lanes to existing highways would involve vegetation clearing, cut and fill in areas where the topography is uneven, relocation of existing noise walls or construction of new noise barriers, reconstruction of existing ramps and bridges,

and property acquisition along some constrained corridors. Construction-related activities and changes (equipment operation and movement of materials in adjacent staging areas, construction signage, jersey barriers [concrete bars about 3 ft high], temporary lane closures, and night lighting) would be highly visible to motorists and adjacent residents and businesses over a period of about 2 to 5 years in any one location and up to 17 years across the state, detracting from scenic landscape features along the highway corridors. The Modal Alternative would potentially contribute to temporary cumulative visual impacts during the construction period when added to the existing No Project Alternative.

The Modal Alternative would also result in potential long-term visual impacts from additional pavement, wider highway structures (interchanges, ramps, bridges), noise barriers, retaining walls, and open cuts in steep terrain, thus changing the dominant landscape characteristics in the study area along vast stretches of highway that traverse a variety of landscape types. Lanes added to bridges and elevated portions of the highway (two lanes would add approximately 24 ft [7 m]), and new stretches of noise barrier walls would cast additional shadows on landscapes below the structure and adjacent to the structure. Widened highways would also result in light and glare being closer to adjacent properties.

Though individually these landscape changes may not be considered significant because they would consist of additions to existing infrastructure, this alternative could contribute to substantial cumulative visual impacts during the next 17 years. Expanded paved surface would result in potential impacts on visual resources. Widening a two-lane or four-lane highway through the natural open space and rural landscapes of the state would result in both direct and cumulative visual impacts because the line, form, texture, and color of the highway would begin to dominate the landscape. Widening highways in suburban and urban areas of the state would contribute to cumulative visual impacts and shadow effects from elevated portions of highway and additional noise walls. The width of 12-lane highways would be approximately 185 ft (56 m), the width of eight lanes would be approximately 125 ft (38 m), and the width of six lanes would be approximately 100 ft (31 m). These pavement widths, together with the need for cut and fill to conform to grade changes and the elevated portions of bridges and ramps required by the Modal Alternative, would result in visual impacts similar to or greater than the HST Alternative along scenic corridors and through natural open space areas. Examples of such areas include the mountain passes (e.g., Diablo Mountain Range, Pacheco Pass, Tehachapi Mountains, Angeles Forest, and Soledad Canyon) and open rural agricultural lands south of San Jose and in the Central Valley. Figures 3.9-14 and 3.9-15 illustrate the potential impacts on SR-152 (Pacheco Pass) of the Modal and HST Alternatives.

In the Los Angeles to San Diego region, the difference between the No Project and Modal Alternatives would be substantial. The Modal Alternative would require the acquisition of approximately 1,100 ac (445 ha) of new right-of-way between Los Angeles and San Diego, 370 ac (150 ha) of which would be paved, to accommodate the highway and interchange widening proposed under this alternative.² The additional right-of-way would displace residential, commercial, and industrial land uses that have been established adjacent to the existing highway, as well as some areas of natural vegetation and rock slopes. Bridges and overpasses would be widened in urban, suburban, coastal, and open space environments, increasing the footprint of the highway as well as the width or extent of the shadow effects beneath the infrastructure.

² Acres of right-of-way for the Modal Alternative are estimated based on the need for a minimum of 25 ft (8 m) of additional pavement width, and 50 ft (16 m) of unpaved width for drainage, cut and fill, and other unpaved area, for the length of I-5 between Los Angeles and San Diego.

The airport improvements would add runways and gates to existing airports, and these features would blend with existing landscape features. Therefore, no visual impacts have been identified for the airport part of the Modal Alternative.

High-Speed Train Alternative

A typical double-track HST, at grade, would have a 50- to 100-ft (15- to 31-m) fenced right-of-way, and an elevated guideway would have a 50-ft (15-m) right-of-way. The 100-ft width would be comparable to a six-lane highway. Catenary supports 26 ft (8 m) in height would be located every 30 ft (9 m) along both sides of the track to support the electric wires that supply power to the trains. The proposed HST alternative would include using existing rail tracks or parallel tracks or highways where feasible, and tunneling through the scenic mountainous and coastal areas where feasible. (See Chapter 2, *Alternatives*, for full description of proposed HST alignment options.). About 194 mi (312 km) of tunnel has been identified for this conceptual stage of design.

The proposed HST Alternative would be built in phases. Construction of the system would have short-term impacts on visual resources similar to those described for highway construction above in the discussion of the Modal Alternative. Construction equipment, staging areas with construction materials, signage, and night lighting would be visible from adjacent properties and roadways during the construction period.

Long-term visual changes would result from the introduction of a new transportation system that would be visible along many major highways and rail corridors connecting the metropolitan areas of the state. The track, catenary, fencing, 12-ft (4-m) to 16-ft- (5-m) high soundwalls (where proposed), approximately 220 mi (354 km) of elevated guideway (where proposed), and the trains themselves would introduce a linear element into the landscape that would have potential cumulative visual impacts when considered with the strong linear element of the existing highway and rail facilities that the HST would parallel. The significance of the visual change would depend on the sensitivity of the landscape and the compatibility with existing landscape features of the typologies along each of the alignment options described in the affected environment section. The landscape typologies considered scenic and therefore most subject to high-contrast visual changes—where the HST would begin to dominate the landscape and detract from the existing features—are the natural open space and park typology and the traditional small urban community typology.

At this program level of analysis, there are no potentially high aesthetic or visual impacts that could not be reduced or mitigated through design treatments (e.g., architectural treatment at historic stations, tunneling, or minimizing the cut and fill through mountainous terrain and in natural areas). Similar construction-related and long-term visual changes would occur under both the Modal and HST Alternatives, particularly in highly scenic areas of the state. Both alternatives would contribute to cumulative visual impacts from construction and shadow effects of elevated structures.

3.9.4 Comparison of Alternatives by Region

Table 3.9-1 summarizes the key findings for each of the alternatives by region. The table identifies the highways in the proposed Modal Alternative and the proposed HST alignment options and stations in each of the five regions that would have potential significant visual impacts (high visual contrasts).

Table 3.9-1
Potential Visual Impacts by Region

Alignment and Station Options	Scenic Highway	Scenic Viewing Point/Landscape	High Contrast/Impact	Shadow Impact	Light/Glare
Bay Area to Merced					
Modal Alternative					
SR-152/US-101 to I-5	35 mi (56 km) designated scenic highway	10–20 viewing points Pacheco Creek Valley, scenic natural open space	High contrast in color, line, and form from enlarged cut/fill, expanded two lanes of pavement, removal of vegetation	High—widened bridges, ramps	Lights from increased auto use at night
High-Speed Train Alternative					
Hayward/Niles/Mulford alignment	6 mi (10 km) (Niles Creek)	4 viewing points historic town of Niles	High contrast of elevated guideway with historic town and scenic canyon	Moderate	Low
Pacheco Pass options	30 mi (48 km)	10–20 viewing points Pacheco Creek Valley, scenic natural open space	High contrast in line and color from elevated guideway over hwy. and catenary and tunnel portal	Moderate—elevated guideway	Low—glare from locomotive lights
Diablo Range Direct options		Natural open space, Henry Coe State Park Orestimba Valley, I-5	Aerial guideway, cut/fill, catenary, tunnel portal	Moderate—elevated guideway	Locomotive lights
Sacramento to Bakersfield					
Modal Alternative			Low visual contrasts		
High-Speed Train Alternative					
UPRR options	0–6.3 mi (0–10.1 km)	0 viewing points	Low visual contrasts	Low—at grade	Low
BNSF options	0.8–6.7 mi (1.28–10.8 km)	0 viewing points	Low visual contrasts	Low—at grade	Low
Stations at Power Inn Road, Stockton ACE, Modesto, Merced, Castle Air Force Base, Visalia, Bakersfield Airport	None	None	Moderate to high visual contrasts with traditional rural community historic architecture in highly visible landscapes	None	Low to moderate light and glare around stations

Alignment and Station Options	Scenic Highway	Scenic Viewing Point/Landscape	High Contrast/Impact	Shadow Impact	Light/Glare
Bakersfield to Los Angeles					
Modal Alternative					
I-5: SR-99 to SR-14; and SR-14: Palmdale to I-5		Pyramid Lake scenic viewing from Visitors Center and Castic Lake Viewing Point from visitor rest area	Moderate contrasts from cut required along hillside, removal of vegetation	No shadow impacts	Increased lights from auto use
I-5: SR-14 to I-405	2.5 mi (4 km) of scenic corridor along I-5		Moderate contrast from double-decking of four lanes for about 4 mi (6 km) over I-5, contrast with scale of urban features	No shadow impacts, existing double-deck sections	Increased lights from auto use
High-Speed Train Alternative					
I-5: Tehachapi corridor	None	2 viewing points: Pyramid Lake scenic viewing point (412 ft [126 m]) and Castic Lake scenic viewing points 0.4 mi (0.6 km) and 0.7 mi (1.1 km)	High-contrast impacts from elevated structure and catenary at edge of Pyramid Lake adjacent to I-5; and cut/fill and tunnel portals in hillside of Santa Clarita Woodlands Park. Moderate contrast from cut and fill for 7.5 mi (12 km) where alignment is close to I-5. Moderate contrast across valley in front of Castic Lake.	Shadow impacts on Pyramid Lake and recreational users within 75 ft (23 m) of elevated structure	
SR-58 corridor	None	Tehachapi Loop Marker 0.7 mi (1 km) from alignment	Contrast with historic Tehachapi Pass Rail, and moderate contrast from cut/fill in hillside for about 12 mi (19 km)	None	
Soledad Canyon corridor	Sierra Highway in City of Palmdale	None within 0.25 mi (0.40 km) of alignment	The elevated guideway and catenary across the scenic Sierra Hwy. and adjacent to Santa Clarita River SEA would contrast with the existing landscape features. Cut/fill, tunnel portals would be visible against natural open space hillsides, and ridges in Angeles National Forest.	Shadow impacts of elevated guideway	

Alignment and Station Options	Scenic Highway	Scenic Viewing Point/Landscape	High Contrast/Impact	Shadow Impact	Light/Glare
Los Angeles to San Diego via Inland Empire					
Modal Alternative			Low visual contrasts for all Modal (highway and airport improvements) in landscapes previously modified	Low	Light and glare from increased traffic
High-Speed Train Alternative					
UPRR Colton Line to March ARB	None	Viewing points are from residential streets.	High visual contrast in urban suburban landscape where alignment is in center of arterial street through residential neighborhood east of the UC Riverside campus	High shadow impacts	
UPRR Colton Line to San Bernardino	None	Viewing points are from residential streets.	High visual contrast in urban suburban landscape where alignment is through established residential neighborhood in Rialto and San Bernardino	High shadow impacts	Low to moderate light and glare at station
San Jacinto to I-5	None	Viewing points are from residential streets.	High visual contrast from long segments of elevated structures in median of highway	High shadow impacts	
Downtown San Diego	None		Elevated guideway in urban mixed use landscape would block views of Bay	High shadow impacts	
Los Angeles to San Diego via Orange County					
Modal Alternative					
I-5 San Juan Capistrano to Del Mar	None	Coastal communities with high aesthetic qualities, limited views of the ocean	Moderate visual contrasts from extensive cut and fill of natural hillsides (removal of vegetation) and rock slopes, and widened sections of elevated highway and bridges; medium impacts in scenic lagoon areas	Shadow impacts of elevated sections of widened highway, medium impacts at lagoons and open space areas	Light and glare from increased auto use
High-Speed Train Alternative					
Irvine to Oceanside	None	Coastal communities of San Juan Capistrano and San Clemente	Beneficial impact of placing existing railroad tracks in tunnel along I-5 (between SR-73 and Avenida Aeropuerto), removing tracks through coastal towns		

Alignment and Station Options	Scenic Highway	Scenic Viewing Point/Landscape	High Contrast/Impact	Shadow Impact	Light/Glare
Dana Point/ San Clemente	None	Dana Point curve	Beneficial impacts for long tunnel option for removing existing rail track along coastal beaches		
Oceanside to San Diego	None	Scenic coastal community and bluffs of Encinitas, Solana Beach, and Del Mar	Beneficial impact of placing existing railroad tracks in short trench in Encinitas; beneficial impacts for tunnel in Del Mar under Camino Del Mar; tunnel along I-5 would have moderate contrasts from views of portals from residential areas and from views of elevated structure south of San Dieguito Lagoon	Low shadow effects of widened structure over lagoons (San Elijo and San Dieguito), beneficial impacts of removing existing structure over Peñasquitos Lagoon	

As shown in the above table, potential high-contrast visual impacts on the highly scenic mountain passes and open space landscapes have been identified for both the Modal and HST Alternatives in the Bay Area region (Pacheco Pass and Diablo Mountain Range), and in the Bakersfield to Los Angeles region (Pyramid Lake and Soledad Canyon). For the proposed HST Alternative, about 95 mi (153 km) of potential alignments through the scenic natural areas shown on conceptual design maps are proposed to be placed in tunnel through the Pacheco Pass and Diablo Range. For the Los Angeles to Bakersfield region, about 38 mi (62 km) of the potential HST corridor are proposed to be in tunnel in the mountainous area, and about 5 mi (8 km) would be in trench. The plan and profile of the alignments would be decided in the subsequent phase of the project development.

Shadow impacts would result from expanded highway bridges (Modal Alternative), from elevated guideways (HST Alternative), and from noise barriers for both alternatives. For all five regions, the potential visual impacts from the HST Alternative would generally be greater than visual impacts described for the Modal Alternative, primarily because the proposed HST system would introduce a new design feature to the landscapes, and the Modal Alternative would be an expansion of existing facilities. None of these potential impacts are unavoidable at this stage of review. Subsequent analysis and engineering design for the proposed HST Alternative would address feasible alignment options to further reduce visual impacts for areas identified as potential high visual contrasts with existing landscape features.

Following is a summary of the key differences among alternatives and potential HST alignment options for each of the five regions. The bulleted text in the HST discussion briefly summarizes the key differences among HST alignment options for each region.

A. BAY AREA TO MERCED

Modal Alternative

As part of the Modal Alternative, the expansion of SR-152 from four lanes to six lanes from US-101 in the Gilroy area to the junction with SR-156 north of Hollister would be most sensitive to potential visual impacts. This winding two-lane highway traverses agricultural and mountainous landscapes, passing through scenic rural, village, and wetland settings. Widening and straightening the highway through this scenic area would involve removal of vegetation and expanded cut and fill that would add to the dominant line and color of the existing highway and detract from the natural landscape features.

High-Speed Train Alternative

- The UPRR main line north of Hayward would have less potential visual impact than the Burlington Northern Santa Fe (BNSF) Niles Branch that would impact the historic town of Niles near the mouth of the scenic Niles Canyon.
- The I-880 option would have less potential visual impact than the Mulford Line option that crosses the Don Edwards San Francisco Bay National Wildlife Refuge.
- The northern tunnel option would “fly” over a residential neighborhood and result in shadow impacts before entering a highly visible tunnel portal to cross through the Diablo Mountain Range. This option would pass north of Henry Coe State Park and would cross the Diablo Range in a series of tunnels; the tunnel under the park option would cross under Henry Coe State Park. These options would have less potential visual impact than the at-grade option across Henry Coe State Park.
- The Pacheco Pass crossing would potentially impact visual resources less than the more northern Diablo Range options because it would parallel the existing linear feature of SR-152 before going in tunnel to cross the natural area of Pacheco Pass.

B. SACRAMENTO TO BAKERSFIELD

Modal Alternative

No potential visual impacts were identified for the highway improvements included in the Modal Alternative or airport improvements in this region.

High-Speed Train Alternative

All potential HST alignment options in this region were ranked as having low potential for visual impacts; only stations would have potential visual impacts because of the proximity to historic structures and architecture. The loops around the center of towns would have less visual impact than the alignment options going through town centers; however, they would be visible from long distances as new alignments in the less-developed bypass areas.

C. BAKERSFIELD TO LOS ANGELES

Modal Alternative

There are two scenic corridors adjacent to two of the segments of the Modal Alternative in this region. The I-5: SR-14 to I-405 segment is adjacent to 2.5 mi (4 km) of a designated scenic route along I-5 between SR-14 and I-405. There would be moderate visual contrasts on this corridor from the double-decking of four lanes over I-5. The I-5: SR-99 to SR-14 segment of highway would be widened by two additional lanes, and this segment would be visible from the Pyramid Lake Visitor Center, and from the Castic Lake Viewing rest area where views of a wider roadway and expanded cut of the hillside would contrast with the natural landscape.

High-Speed Train Alternative

The following HST alignment options would result in the lowest impacts on aesthetics and visual quality in this region.

- The I-5 corridor with the Wheeler Ridge alignment option to Bakersfield would result in the lowest aesthetics/visual quality impacts of the alignments between Bakersfield and Sylmar. Moderate contrast impacts associated with cut and fill would occur along approximately 7.5 mi (12 km) where the alignment would be close to I-5 and/or adjacent to existing roads that parallel I-5. Contrast impacts would be lower in these areas because the landform has previously been graded and altered for these existing roads. Visual impacts would therefore be minimized by locating the alignment in the area of the existing transportation corridor. In comparison, the SR-58/Soledad Canyon corridor would result in approximately 6.2 mi (10 km) of high-contrast cut-and-fill impacts in Soledad Canyon and 11.8 mi (19 km) of high-contrast cut-and-fill impacts in the mountainous area of SR-58. The landform in the mountainous areas on the Antelope Valley corridor would be largely unaltered. Visual contrast related to cut and fill in these areas would therefore be greater than along the I-5 corridor. Both the I-5 corridor and the SR-58/Soledad Canyon corridor would have high-contrast impacts and high potential shadow impacts related to aerial structure.
- Both the Wheeler Ridge and the Union Avenue alignment options of the I-5 alignment would have high-contrast impacts related to aerial structure. The Wheeler Ridge alignment option would have low potential shadow impacts on residential areas, however, while the Union Avenue alignment option would have moderate potential shadow impacts on residential areas.

D. LOS ANGELES TO SAN DIEGO VIA INLAND EMPIRE

Modal Alternative

The highway and airport expansions described for this region would not have potentially high visual contrasts because the changes to these facilities would be in landscapes that have been substantially modified already.

High-Speed Train Alternative

- In the LAUS to March ARB segment, the additional potential high-contrast impacts and shadow impacts of the San Bernardino loop would expose the two alignment options that would include this loop to more high visual impacts than the two alignment options that would not include this loop.
- In the March ARB to Mira Mesa segment, the alignment option that would serve the proposed Escondido Transit Center station site would have slightly more high visual potential impacts than the other alignment option. This difference is due to the relatively greater potential for high-contrast and shadow impacts in the subsegment associated with the transit center station.
- In the Mira Mesa to San Diego segment, the two alignment options that would join the coast and serve downtown San Diego would have more potential high visual impacts than the alignment option that would serve the Qualcomm Stadium station. This outcome is due to the relatively greater potential for high-contrast and shadow impacts expected in this segment. A scenic viewing point included in the two alignment options serving downtown San Diego also would not occur in the other alignment option.

E. LOS ANGELES TO SAN DIEGO VIA ORANGE COUNTY

Modal Alternative

The Modal Alternative would potentially increase the visual mass of the existing I-5 freeway, interchanges, bridges, and overpasses throughout its length from Los Angeles to San Diego. The existing right-of-way would need to be widened in most areas, resulting in displacement of uses built up to the right-of-way and reduction of undeveloped or landscaped areas along the freeway. In the northern and southern stretches of the freeway corridor (Los Angeles to San Juan Capistrano, and south of Del Mar to downtown San Diego), these changes to the landscape would result in overall low visual impacts. In areas between San Juan Capistrano and Del Mar, visual impacts would generally be higher (medium) due to more alteration of adjacent uses and the need for some extensive cut-and-fill activities in areas of natural hillsides and rock slopes. All elevated portions of the freeway and interchanges would be widened, increasing the shadow impacts on uses underneath the elevated infrastructure and expanding the dominance of the line and form of the existing infrastructure from viewing points along SR-1 (Pacific Coast Highway) and coastal trails. Shadow impacts would be noticeable in the residential and natural open space areas, such as crossing of lagoons in San Diego County.

High-Speed Train Alternative

In a number of locations along the LOSSAN corridor, the HST Alternative presents opportunities to improve the existing visual environment with alignment and/or construction options that would either place existing and new rail infrastructure in a covered trench or remove existing rail infrastructure from areas of high scenic value and relocate it in tunnels. The areas where beneficial impacts on area aesthetics could occur are summarized below.

High-Speed Train Technology (Electric System) Improvements

- The covered trench option in Orange and Santa Ana Counties (LAUS to Irvine segment) would place the existing at-grade rail tracks in a covered trench. This option would have a beneficial impact in the urban/suburban environment, while the option of constructing a second track at grade would have a low impact.

Non-Electric Conventional Rail Improvements

- In San Juan Capistrano, the option of double-tracking along the existing alignment through downtown was eliminated during the LOSSAN corridor screening process. The I-5 tunnel option would place the existing and new tracks in tunnel, removing the visual impact of the existing rail line in the historic downtown area and resulting in a beneficial visual impact. The other option in this area is an at-grade and open trench alignment along the east side of Trabuco Creek, just west of the existing rail alignment. This option would have a medium visual impact in residential and commercial areas.
- In San Clemente, the options of double-tracking in a short or long trench along the existing beach alignment were eliminated during the LOSSAN corridor screening process. The three remaining options (a short tunnel, a long one-segment tunnel, or a long two-segment tunnel) would all result in a beneficial impact by removing the existing tracks from the beach and placing them in tunnel away from the highly scenic coastal viewshed. The longer tunnel options would provide the greatest visual improvement in the area.
- The short covered trench option in Encinitas would have a small beneficial visual impact in a portion of this alignment. The other option, double-tracking at grade in the existing rail alignment, would have a low visual impact.
- In Del Mar, the existing tracks are located along the top of the coastal bluffs overlooking the ocean. The option of placing the existing and new tracks in a covered trench along the existing alignment on the bluffs was eliminated during the screening process, in part because of the visual impact that would result from required seawall stabilization of the bluffs. The Camino del Mar tunnel option would have the beneficial impact of removing the existing tracks from the bluffs into a tunnel under the city street. The other remaining option, the I-5 tunnel, would have a medium visual impact due to tunnel portals in residential areas and the presence of an elevated structure along the south end of the San Dieguito Lagoon that would also affect residential and open space views.

The implementation of some or all of the beneficial options above would improve the scenic quality along the existing LOSSAN corridor in residential areas and in highly scenic coastal areas along the corridor. Neither the No Project nor the Modal Alternative would provide these opportunities for improving the aesthetic environment.

3.9.5 Photo Simulations of Alternatives in Selected Scenic Areas

Figures 3.9-16 to 3.9-22 are photo simulations that illustrate what the Modal or HST Alternatives (expanded highways or HST) may look like in typical landscapes described for each of the regions, using existing conditions as the baseline. These simulations do not include potential changes to the existing landscapes that could occur between the time of this analysis and the year 2020 from other projects and urban development. These simulations are meant to illustrate how the existing dominant landscape features would be potentially changed with the implementation of the proposed alternatives. Below is a brief description of the photo simulations.

- Figure 3.9-16A and 3.9-16B: Historic Gilroy station with and without HST station. These figures illustrate how the proposed HST station could be integrated with an existing historic structure. The

Gilroy station is representative of historic stations, predominantly of those in the Central Valley areas (Bay Area to Merced and Sacramento to Bakersfield).

- Figures 3.9-17A and 3.9-17B: Pixley with and without HST alignment. These figures illustrate how the proposed HST alignment could potentially impact a traditional small urban community. It should be noted, however, that this particular area is already impacted by US-99, which is located adjacent to the proposed HST alignment, the viewpoint from which the picture without HST was taken. Under the Modal Alternative, the visual impact would be a widening of US-99 into the area where the proposed HST alignment is pictured and on the other side of the highway.
- Figures 3.9-18A and 3.9-18B: Soledad Canyon with and without the proposed HST alignment in cut configuration. These figures illustrate how a scenic resource could potentially be impacted by HST alignment in a cut configuration. It should be noted that this impact could potentially be avoided or mitigated by placing the HST alignment in tunnel or by using other construction and landscaping techniques to reduce visual impact.
- Figures 3.9-19A and 3.9-19B: I-15 corridor in San Diego with and without the proposed HST alignment. These figures illustrate how the proposed HST alignment could be integrated alongside an existing highway alignment. It should be noted that along this alignment, the HST alignment in some portions would be in tunnel and would not be visible from the highway or the surrounding area. Under the Modal Alternative, the visual impact would be a widening of I-15 into the area where the HST alignment is pictured and on the other side of the highway (Figure 3.19-C).
- Figures 3.9-20A and 3.9-20B: I-5 corridor in La Jolla with and without the highway widening improvements proposed under the Modal Alternative. These figures illustrate how the addition of one through lane in each direction affects the ramps (moving them into the hillsides) and overcrossing structure (reconstructing the abutments). The improvements would be visible from the highway, and in the case of the ramps visible from the surrounding hillsides as well.
- Figures 3.9-21A and 3.9-21B: Little Italy, downtown San Diego, water view with and without HST alignment. These figures illustrate how the HST system could be integrated into a developed urban region. The potential impact of the HST alignment would be relative to the position of the viewer. For instance, in this case the potential impact would be greatest closest to the alignment, while from the location where the picture was taken, the proposed HST alignment blends into the built area.
- Figures 3.9-22A and 3.9-22B: San Elijo Lagoon with and without improved railroad bridge. These figures illustrate how the proposed improvements to the existing LOSSAN rail corridor could impact a bridge over a scenic natural habitat along the coastal corridor. The potential impact from a modern concrete bridge could potentially be less obstructive than the existing wooden trestle bridge. Longer spans could provide greater view potential.

3.9.6 Mitigation Strategies

General mitigation strategies would include the design of proposed facilities that are attractive in their own right and that would integrate well into landscape contexts, so as to reduce potential view blockage, contrast with existing landscape settings, light and shadow effects, and other potential visual impacts. Further consultation with local and regional agencies and with the public would help the Authority and the FRA refine these general mitigation strategies during the following stage of environmental review. The following measures could be considered during subsequent review and design development to enhance project appearance and minimize project visual impacts.

- Bridges and elevated guideways could be designed with graceful lines and with minimal apparent bulk and potential shading effects. Features that could be considered include use of contoured, rounded edges for columns and other structural elements.
- Elevated guideway, station, and parking structures could be designed with sensitivity to the context. Exterior materials, colors, textures, and design details could be used that are compatible with

patterns in the surrounding natural and built environments and that minimize the contrast of the structures with their surroundings.

- Exterior finishes for catenary support structures could be chosen that have neutral colors, are context-appropriate, and have dulled finishes that minimize reflectivity.
- Aesthetically appropriate fencing could be installed along rights-of-way. In residential and city center areas, decorative fencing may be appropriate. In all contexts, the fencing could be dark and non-reflective to reduce its visual contrast.
- Where at-grade or depressed route segments pass through or along the edge of residential areas or heavily traveled roadways, landscape treatments could be installed along the edge of the right-of-way such as trees, shrubs, and groundcover to provide partial screening and to visually integrate the right-of-way into the residential context.
- Night lighting at stations should be the minimum required for operations and safety. All lights should be hooded and directed to the area where the lighting is required. For lights that are not required to be on all the time, sensors and timers should be specified.
- In the project-level review of proposed stations, the potential shadow impacts on adjacent pedestrian areas, parks, and residential areas should be taken into account.

3.9.7 Subsequent Analysis

Specific analyses that would be appropriate for project-specific environmental evaluation are discussed below.

- Detailed analyses should be performed along each corridor, particularly in areas with elevated structures, to identify potential visual intrusions into residential and park and open space areas. These analyses should focus on identifying the potential for blockage of valued views; the areas where shadows would be cast on residential and open space lands; and the areas where the scale, form, line, and color of project facilities would substantially alter the existing character and quality of the setting. In addition to producing a detailed inventory of area-specific impacts, this analysis would serve as the basis for identifying areas where project siting adjustments and design modifications, landscaping, and other mitigation measures may be incorporated to reduce potentially considerable impacts to a low level.
- Review of local urban design plans and policies should be conducted to take into account local design objectives. The analyses would provide a basis for considering specific design measures that would modify the impacts of the project in ways that would make the project design more consistent with local urban design goals.
- An analysis should focus on the segments of alignment that would be located adjacent to and down the median strip of freeways.
- For each of the proposed station sites, further analyses should be conducted in consultation with local agencies to develop an understanding of the relationship of the proposed station architecture, parking lots, lighting systems, and other features to the surrounding natural and built setting and historic context of the surrounding landscape setting. The analyses should identify the potential for blockage of valued views; the areas where shadows would be cast; and the areas where the scale, form, line, and color of project facilities could be designed to blend with the surrounding landscape. The analyses would be used to provide a basis for considering specific measures that could be integrated into the final station designs to reduce the visual impacts of the stations on their surroundings.